

***FREDIUS STENOLOBUS*, A NEW SPECIES OF FRESHWATER
CRAB (DECAPODA: BRACHYURA: PSEUDOTHELPHUSIDAE)
FROM THE VENEZUELAN GUIANA**

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Abstract.—*Fredius stenolobus*, a new species of pseudothelphusid crab, is described from the Caura River basin in the Venezuelan Guiana. The species closely resembles *Fredius beccarii* (Coifmann, 1939), but can be easily distinguished by the characteristic cephalic process of the first male gonopod and by the apical spinulation of the second male gonopod. SEM microphotographs of these appendages are provided for both species.

In a recent revision of the genus *Fredius*, Rodríguez & Pereira (1992) discussed the systematics and distribution of this genus in northern South America, and advanced an hypothesis relating to the origin and radiation of its species. Recent collections in the Caura River and some of its tributaries revealed another new species of *Fredius*.

The material is deposited at the Museo de Historia Natural La Salle, Caracas (MHNLS) and the Museo de Biología, Universidad Central de Venezuela, Caracas (MBUCV). Other abbreviations used are cb for carapace breadth, and cl for carapace length.

Family Pseudothelphusidae Ortmann, 1893

Tribe Kingsleyini Bott, 1970

Genus *Fredius* Pretzmann, 1967

Fredius stenolobus, new species

Fig. 1A-D; 2A-C; 3A, B

Material.—Rio Mojagua, affluent of Rio Erebato, Estado Bolívar; E. León; 7 Mar 1992, 1 male holotype, cb 81.3 mm, cl 51.5 mm, 2 male paratypes, cl 18.8 and 25.0 mm, cb 62.5 and 38.7 mm, 3 female paratypes, cl 37.8, 35.3 and 33.5 respectively, cb 59.0, 54.4 and 51.8 mm respectively (MHNLS 1267).—Rio Caura, Entreríos, 5°57'15"N, 64°25'30"W, 350 m alt., Estado Bolívar; 25 May 1989; H. Castellanos; 1

male, cl 42.7 mm, cb 64.4 mm, 1 female, cl 54.8 mm, 86.8 mm (MBUCV XI-2923).—El Raudal, Caño Cambur, 15 km SW from Maripa, Estado Bolívar; 21 Mar 1985; J. Medina; 1 immature female, cl 35.7 mm, cb 54.5 mm (MBUCV XI-901).

Diagnosis.—Cephalic lobe of first gonopod auriculariform, narrow in cephalic view, projected distally into triangular spine; medial border of cephalic lobe sinuous, ending proximally in rounded projection covered with spinules; lateral border of cephalic lobe ending distally in oblong rounded lobe. Medial lobe well developed, wide, rounded, thumb-like, with bifid apex and large triangular cephalic spine on distal margin.

Description.—(based on holotype and 5 paratypes) Cervical groove deep, narrow, slightly sinuous, ending away from lateral margin. Anterolateral margin with depression behind anteroexternal angle, followed by 3-4 papillae; rest of margin behind cervical groove with approximately 15 blunt teeth, decreasing in size posteriorly. Postfrontal lobes low, wide, continued laterally as faint ridges; median groove wide and shallow between postfrontal lobes, obsolescent or absent near frontal margin. Surface of carapace in front of postfrontal lobes slightly excavated in frontal view and inclined anteriorly. Upper border of front straight or slightly bilobed in dorsal view,

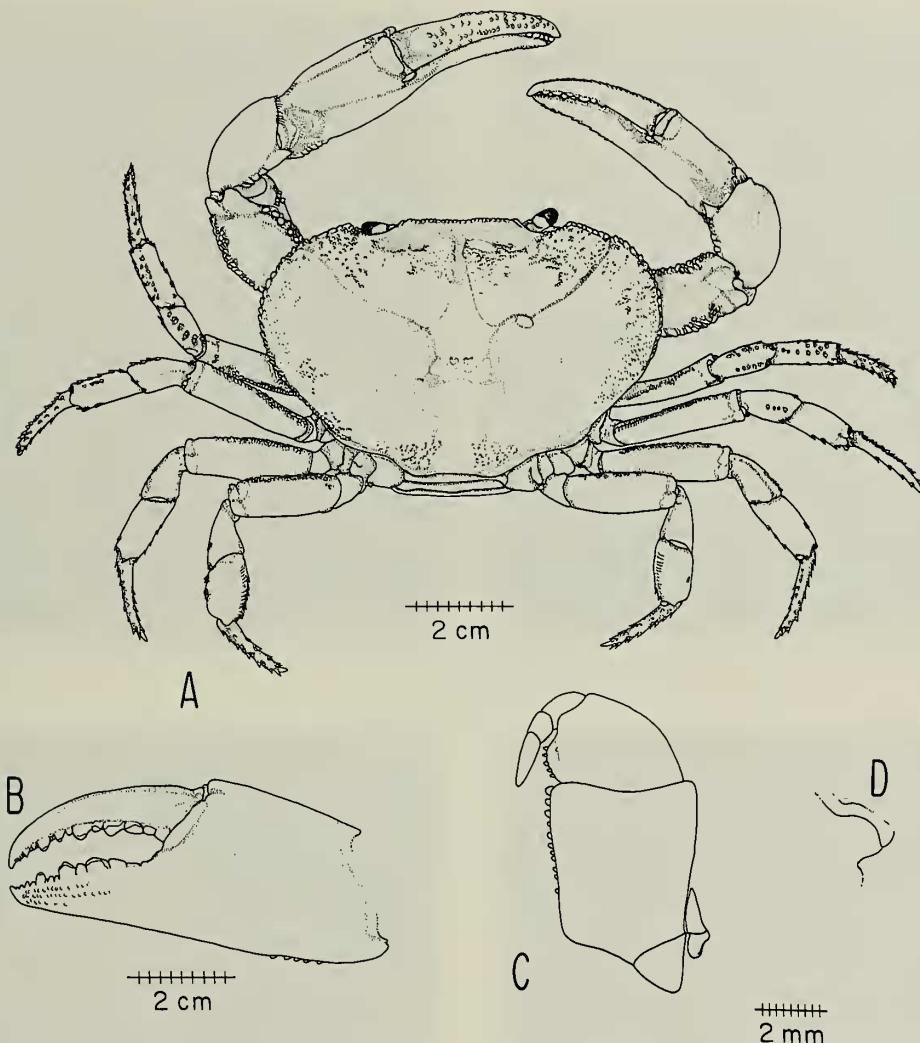


Fig. 1. *Fredius stenolobus*, new species, holotype: A, Dorsal view of carapace and pereiopods; B, Chela of largest cheliped, external view; C, Third maxilliped, left; D, Aperture of efferent channel, left.

carinated, marked with row of indistinct papillae, median notch absent or inconspicuous. Lower margin thin and strongly sinuous in frontal view. Surface of front between upper and lower borders high, excavated, retracted backwards. Surface of carapace with numerous large papillae visible to the naked eye on hepatic and branchial regions. Similar papillae present on dorsal surface of pereiopods.

Palm of larger chela elongated, not conspicuously inflated, fingers strongly arched

inwards, gaping at base. Exopod of third maxilliped 0.30 length of ischium of endognath.

First gonopod robust at base, strongly tapering to subapical bulge, with marginal, cephalic, and mesial lobes well developed. Marginal lobe truncate, not extending over field of apical spines. Cephalic lobe auriculariform in cephalic view, projected distally into triangular spine (Fig. 2C, ds), mesial border sinuous, continued proximally as rounded projection with spinules; lateral

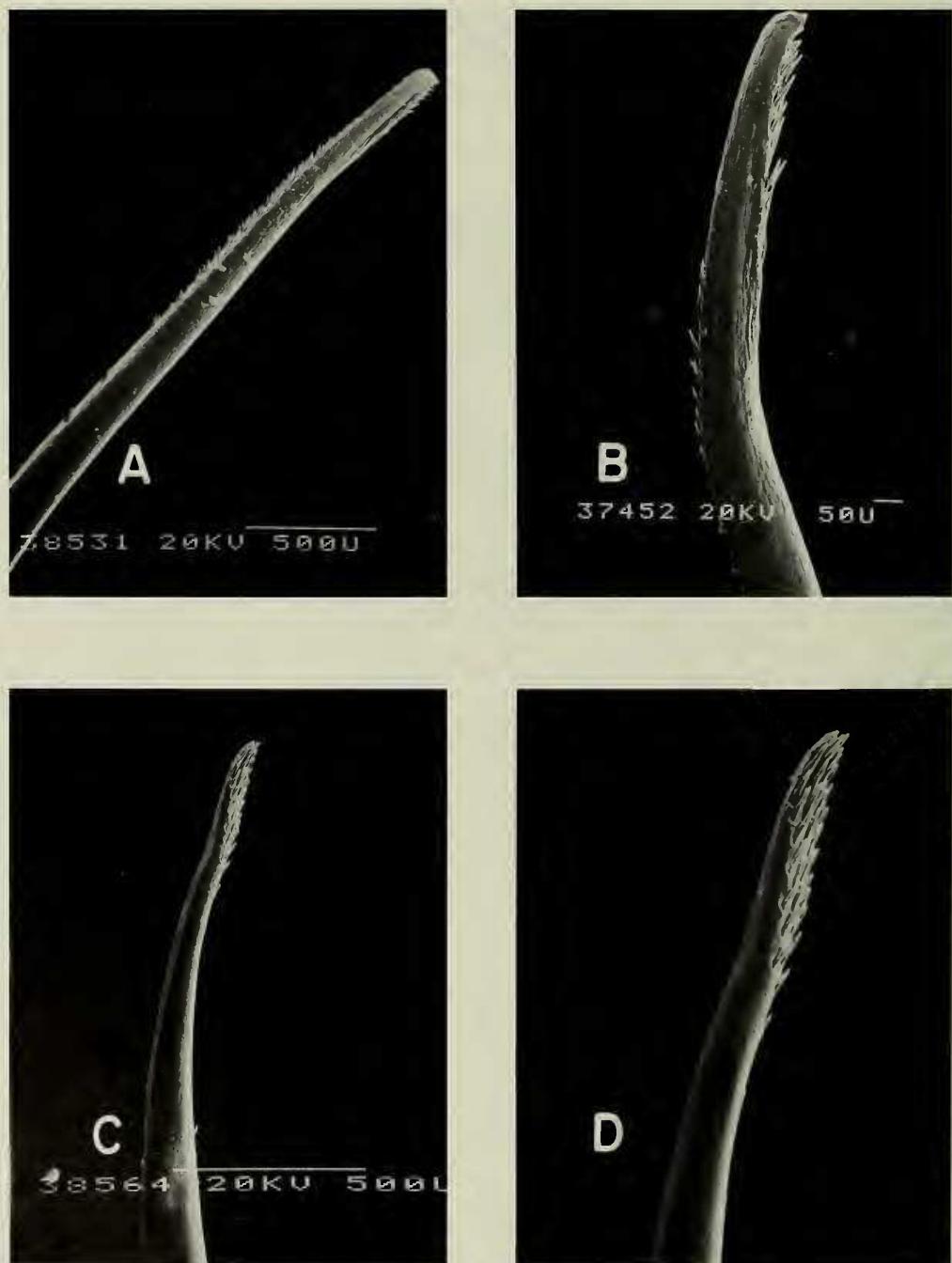


Fig. 2. Apical portion of left first gonopod: A-C, *Fredius stenolobus*, new species, holotype; D, *Fredius beccarii* (Coifmann 1939), MBUCV XI-2928. A, D, caudal view; B, meso-caudal view; C, cephalic view; al, accessory lobe; cs, cephalic spine; ds, distal spine; ml, mesial lobe.



Fig. 3. Left second gonopod: A, B, *Fredius stenolobus*, new species, holotype; C, D, *Fredius beccarii* (Coifmann 1939), MBUCV XI-2928. A, C, Terminal portion; B, D, Detail of apex. Scale in D same as scale in B.

border with rounded accessory lobe (Fig. 2A, B, al); field of apical spines wide, directed to cephalic side. Mesial lobe wide, rounded, thumb-like, with bifid apex, and large triangular cephalic spine on distal margin (Fig. 2A, cs). Marginal setae arranged in dense row over proximal half of gonopod; lateral surface with numerous long plumose setae. Second gonopod with numerous spinules on distal portion; tip cup-shaped, with relatively strong spines directed distally.

Color.—Holotype preserved in alcohol dark brown on the dorsal surface of the carapace and walking legs; anterior portion of the carapace a darker shade. The chelae are dark brown on the upper portions, brown-orange on the inner surface; the distal portions of the dactyli are black. The ventral surface of the carapace and appendages is light brown.

Etymology.—The specific name is from the Greek “stenos,” narrow, and “lobos,” lobe, and refers to the narrow cephalic lobe.

Fredius beccarii (Coifmann, 1939)
Figs. 2D; 3C, D

Pseudothelphusa beccarii Coifmann, 1939,
p. 98, figs. 2, 4a, pl. 3, 1, 2.

Guinotia (Neopseudothelphusa) beccarii,
Pretzmann, 1967, p. 24.

Eudaniela (Aspöckia) beccarii beccarii,
Pretzmann, 1971, p. 16.

Eudaniela (Aspoeckia) beccarii beccarii,
Pretzmann, 1972, p. 18, figs. 103–104.

Pseudothelphusa contorta Rodríguez, 1966,
p. 263, fig. 3, pl. 2.

Eudaniela (Aspöckia) beccarii contorta,
Pretzmann, 1971, p. 16.

Eudaniela (Aspoeckia) beccarii contorta,
Pretzmann, 1972, p. 19, figs. 25–28, 73,
74.

Guinotia (Neopseudothelphusa) beccarii cu-
yunis Pretzmann, 1967, p. 23.

Fredius beccarii, Rodríguez & Pereira, 1992,
p. 304, fig. 4M, N.

Material.—Rio Cuyuní, Estado Bolívar;
1987; A. Machado (MBUCV XI-2928). 1

male (cl 39.7 mm, cb 63.0 mm; Venezuela, without other data; (MBUCV XI-0838). [Other literature records for this species are given by Rodríguez (1982)].

Remarks.—The first gonopod of *Fredius stenolobus* closely resembles that of *Fredius beccarii*, but in this latter species the cephalic lobe is wider in cephalic view, the accessory lobe is absent, and the proximal spiny projection of its mesial margin is more developed. The cephalic spine of the first gonopod of *F. beccarii* is stronger and directed caudally, and the lateral lobe is larger than in *F. stenolobus*. The morphology of the second male gonopod has been rarely used in pseudothelphusid systematics. As our SEM photographs show, there are conspicuous differences between the second gonopods of both species. The cup-shaped tip differs in the arrangement of the spines and the conspicuous spinulation on the distal portion observed in *F. stenolobus* is absent in *F. beccarii*.

The key to the species of *Fredius* in Rodríguez & Pereira (1992) should be expanded after couplet 2 to allow for the new species as follows:

Cephalic lobe narrow, accessory lobe prominent
 *Fredius stenolobus*, new species
 Cephalic lobe very wide, accessory lobe absent
 *Fredius beccarii* (Coifmann, 1939)

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